FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE
November 1, 2016
Richland, WA

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This is only a summary of issues and actions discussed at this meeting. It may not represent the fullness of represented ideas or opinions, and it should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Opening

Pam Larsen, River and Plateau (RAP) committee chair, welcomed the committee and introductions were made. Committee members approved the October 2016 meeting summary.

PFP Update

RAP committee members have been briefed at the last few committee meetings on the progress of the Plutonium Finishing Plant (PFP) remediation. Windy weather caused a delay in demolition on October 31, 2016. Physical demolition of the facility began on November 1, 2016.

Agency Presentation

Tom Teynor, U.S. Department of Energy – Richland Operations Office (DOE-RL), provided the RAP committee with a brief update on the demolition work at PFP. Key points from Tom's presentation[1] include:

- CH2M HILL Plateau Remediation Company (CHPRC) removed eight glove boxes within three weeks in October 2016.
- The demolition sequence began in the South Canyon air locks, followed by the fourth floor of the facility, the canyon, and the americium facility. The McCluskey Room is scheduled for demolition in mid-December 2016.
- CHPRC will pause demolition activities after the McCluskey Room is demolished. CHPRC will create a 'lessons learned' document of the demolition activities to date to inform future demolition activities.
- CHPRC will create another 'lessons learned' document after the fifth and sixth floors of the facility are demolished. All demolition activities are expected to be complete by July 2017.

Agency Perspective

Randy Bradbury, Washington State Department of Ecology (Ecology), announced that Ecology is very pleased that the project is on schedule to complete the Tri-Party Agreement (TPA) milestone (M-083-00A). Randy commended CHPRC for their great work in decommissioning PFP.

Attachment 1: PFP Update (DOE-RL, 11/1/16)

Committee Questions and Response[2]

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. Will the demolition be complete to slab-on-grade by July 2017?

> *R. [DOE-RL] Yes, the demolition will be completed to slab-on-grade by July 2017. It will take about a month to contour the area. The removal action work plan lists other conditions that need to be met, such as characterization sampling. Eventually, DOE-RL will transfer the work to Al Farabee's group at DOE-RL and the Environmental Protection Agency (EPA). DOE-RL and EPA are having discussions about the transfer now.*

Q. What is the disposition pathway for the Transuranic (TRU) waste on the fourth floor?

> *R. [DOE-RL] There is a large container on the fourth floor. The waste will go to the Central Waste Complex until it can be shipped to the Waste Isolation Pilot Plant (WIPP). Items that are too large will be placed into WIPP-certified containers. A majority of the waste removed from PFP will be sent to the Environmental Restoration Disposal Facility (ERDF).*

Q. Is wind the only weather event that would cause a delay?

> *R. [DOE-RL] Wind and ice are the main concerns. Crews can work when it is raining.*

Q. Are the tunnel areas included in this scope of work?

> *R. [DOE-RL] There are two tunnel areas with drain lines that run from east to west and are located at PFP. CHPRC plans to grout and remove the drain lines. Drain lines located outside of the facility are not included in this scope of the work.*

The RAP Committee thanked Tom for his presentation and Randy for his agency perspective. The committee anticipates receiving reoccurring updates on the PFP demolition at future committee meetings.

618-10 Burial Grounds Remediation Update

Pam Larsen, issue manager, noted that the remediation work at the 618-10 Burial Ground has been transferred from Washington Closure Hanford (WCH) to CHPRC as of August 2016. Mike Jennings, CHPRC, is the new project manager for the remediation of 618-10 Burial Grounds.

Agency Presentation

Bryan Foley, DOE-RL, provided an update on remediation progress at the 618-10 Burial Ground, as well as cleanup at adjacent waste sites. Key points from Bryan's presentation[3] include:

Attachment 2: Transcribed flipchart notes

618-10 Burial Ground:

- WCH created the initial remediation design for the 618-10 Burial Ground. In the initial design, there are twelve discrete trenches, approximately 2,254 drums, and 94 vertical pipe units (VPUs).
    - 972 drums are concrete lined; 178 drums contain depleted uranium black oxide; 537 drums contain depleted uranium chips and oil; 47 drums contain zirconium chips, 40 drums contain thorium, and 480 drums consist of miscellaneous chemicals.
- 1,996 drums have been retrieved and 258 drums remain. The number of drums that remain are estimated based on observations, ground penetrating radar and legacy data. CHPRC detected unexpected drums after the work was transitioned to them in August 2016.
- Concrete-shielded waste drums that contain high dose items, debris drums and granular media drums are processed with grout in the trenches. Trench drum excavation is scheduled to be completed by the second quarter of Fiscal Year (FY) 2017.
- More than 353,454 tons of material from the trenches has been shipped to ERDF.
- VPUs are made up of corrugated steel piping or consist of 55-gallon steel drums that were welded together to create a pipe. Eighty VPUs were overcased in FY 2015 and auguered in FY 2016.
- Fourteen steel piped VPUs remain to be augered. Mockup testing and project startup for retrieval is currently underway. CHPRC plans to begin retrieval in November 2016 and anticipates complete retrieval in the fourth quarter of FY 2017.
- Mockup testing led to a need for an additional piece of equipment- larger shears. The purchase of the larger shears is not expected to alter the schedule for augering the steel VPUs.

316-4 Waste Site:

- The 316-4 Waste Site is adjacent to the 618-10 Burial Ground. Excavation work was halted at 316-4 because it interfered with cleanup operations at 618-10.
- Two bottomless tanks were buried 10 feet below grade. They were removed in 2005 by the previous contractor. Remediation of residual contamination could not be processed below 27 feet due to the proximity of 618-10.
- CHPRC plans to excavate the remaining contamination, approximately 70 feet below the surface to groundwater by April 2017. Monitoring and testing will be done to understand the depth and extent of contamination.
- CHPRC estimates that they will remove 225,000 meters^3 of soil and 34,000 tons of low-level waste will be disposed of at ERDF. There is a possibility that CHPRC will chase contamination

plumes. Backfilling the waste site is anticipated to be complete by February 2018. The completion date will likely shift if plumes of contamination are found.

600-63 Waste Site:

- The 600-63 Waste Site is adjacent to the 618-10 Burial Ground. The site is approximately 36x19 feet wide and 30 feet deep.
- In the late 1970s, Pacific Northwest Laboratory used the 600-63 Site to investigate groundwater recharge and radionuclide migration through soils through use of a lysimeter. Corrugated steel piping was placed into the ground and technium-99 was used as a tracer.
- CHPRC plans to begin excavating the site by October 2017 and complete backfilling by May 2018.

Committee Questions and Responses[2]

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. Did CHPRC locate the additional drums at an additional depth or horizontal gradient?

R. [DOE-RL] A drum was discovered recently along the boundary of waste sites 618-10 and 316-4. The drum was sent to ERDF.

Q. How deep is the trench at 618-10?

R. [CHPRC] Some areas in the trench are 35 feet deep.

Q. Does the road intersect with the area where the drums are? How does it affect 316-4?

R. [CHPRC] 316-4 will infringe on the 618-10 waste site due to the proximity of one another. The additional drum was discovered when CHPRC began cleaning and prepping the area. CHPRC will continue to excavate at the top of the VPUs.

Q. Has CHPRC made the determination that plutonium does not exist at the waste sites?

R. [CHPRC] The baseline drums are thought to be non-TRU waste. We continue to characterize the drums as they are discovered.

Q. How much thicker is the wall of the steel VPU versus the welded drums?

R. [CHPRC] The welded drums have a lightweight metal. The thickness of the wall increases as the diameter of the pipe increases. The pipes are about 22-28 inches in diameter.

Attachment 2: Transcribed flipchart notes

Q. Is CHPRC grabbing and pulling up the steel VPUs in stages?

R. [CHPRC] We dig down about 5 feet around the steel VPU, set a mix box around the VPU, place dirt around the outside of the box to stabilize it and fill the box with grout. The large shears start cutting the top of the VPU.

Q. Is the retrieved waste sampled?

R. [CHPRC] We take samples of the grout.

C. It was my understanding that the waste mixture was supposed to be sampled.

R. [CHPRC] Historical records describe the waste. The grout mix with the waste is characterized in accordance with the Waste Acceptance Criteria.

Q. What kind of materials are in the steel VPUs? Will the waste be sent to ERDF, even if it is not characterized first?

R. [DOE-RL] Historical records indicate that the VPUs have waste inside with dirt or grout on top of the waste. Historical records characterize the waste inside the VPUs. Material will be sampled to confirm content before disposition. Low-level waste material is sent to ERDF.

Q. How much material of the overcasing is removed by the large shears?

R. [CHPRC] Approximately 1-3 inches of steel is removed from the overcasing, one cut at a time.

Q. How is the contamination classified at the 316-4 Waste Site?

R. [DOE-RL] The tanks were used to dispose uranium liquid contamination.

Q. Is radiation held from the sides of the bottom-less tanks? Does this allow for waste to leak out from the bottom?

R. [DOE-RL] That is correct; the contamination can move underneath the tanks. It is similar to a crib.

Q. At a previous RAP committee meeting, the President of WCH mentioned that CHPRC is chasing a plume from 618-10 to 316-4. Did that plume originate from 618-10?

R. [DOE-RL] It is not clear where the plume originated. 618-10 had drums filled with known leaking contaminants such as uranium and oil. There is potential that leaks came from 316-4, too. It has not been determined where the plume is located, which is why CHPRC needs to observe during the excavation work.

Q. Will the 618-10 Burial Ground be closed in tandem with 316-4?

R. [DOE-RL] Both waste sites need to be excavated first. Once the sites no longer require additional clean up, then backfilling will take place.

Q. How is non-contaminated soil documented? Excavating 225,000 meters^3 of soil is a large volume.

R. [CHPRC] We plan to sample the soils at each section, as they come out of the site. All soils are sampled in the ground before it is backfilled. WCH gave us an estimation of the depth of contamination. CHPRC plans to dig 20x20 feet columns and evaluate if further excavation is necessary.

R. [DOE-RL] The estimated amount of soil to be excavated does not include additional plume chasing. There is potential to excavate a greater quantity of soil.

Q. Will the excavator that CHPRC use be similar to the one WCH used?

R. [CHPRC] A similar excavator will be used when handling contaminated soils. A different excavator is used to handle the non-contaminated soils. It is assumed that the top 36 feet of non-contaminated soil is pristine, as it was recently backfilled with clean fill material.

Q. Is CHPRC planning to dig across roads? Where will the non-contaminated soil stock pile be located?

R. [CHPRC] Yes, we plan to dig across roads. The stock pile is located further north of the site and is large enough to lay down clean soil in rows, almost 1000 feet lengthwise. The design is underway and we can give more updates on the design at a future committee meeting.

Q. Has a cultural review been performed for the stock pile site?

R. [CHPRC] Yes, a cultural review has been completed for the stock pile site.

C. The Hanford Natural Resources Trustee Council would advise CHPRC to avoid removing sagebrush from the stockpile site.

R. [CHPRC] Thank you for the input. There is very little sagebrush in the area where the stock pile will be located.

Q. Is the intent to approach remediation at 316-4 from 618-10?

R. [CHPRC] If 316-4 is approached from 618-10, it will be considered contaminated. At some point, we may discover that the two sites intersect geographically or by the contamination that exists there. It doesn't impact the remediation work to decipher where the waste originated from because CHPRC is going to remediate both waste sites.

Q. Do historical records show a large volume of waste in the bottomless tanks at 316-4?

R. [CHPRC] Historical records show a large mass but not a lot of radioactivity.

Q. Is the 600-63 waste site similar to the lysimeter in the 200 Area that is near the weather station?

R. [DOE-RL] Yes.

C. A capture device was often used on the bottom to prevent testing materials from reaching groundwater.

C. The RAP committee likes the observational approach and would encourage CHPRC to chase the plumes.

Q. Why won't backfilling occur at the same time at the 618-10 and 316-4 Waste Sites?

R. [CHPRC] We have limited resources in terms of employees and equipment. 618-10 is a more complex site than 316-4. We would like to have 618-10 completed first so that 316-4 is a controlled remediation project.

Q. Is it possible to backfill the 618-10 Site sooner?

R. [CHPRC] There are many steps that need to happen before backfilling can occur. Regulators need to submit the proper closeout sampling documents before CHPRC can backfill.

Q. Will revegetation occur during backfilling?

R. [CHPRC] CHPRC plans to stabilize the soil but revegetate at another time, probably sometime in November – February of the years that backfilling takes place.

Q. Will CHPRC use some of the "pristine" soil in the top 30 feet when backfilling?

R. [CHPRC] We hope to but we will need to sample the soil first.

C. The remediation work is very impressive and it appears that the end is in sight. Congratulations!

Q. Where does CHPRC plan to receive the backfill material to place on top of the non-contaminated soil?

R. [CHPRC] The primary source for non-contaminated soil for backfilling is from Pit 9, which is permitted for us to harvest soil from. Pit 9 is located about 3.5 miles away from the 618-10 Burial Ground.

Q. Given the success at 618-10, has CHPRC began to consider remediating the 618-11 Burial Ground? Have there been discussions about CHPRC taking that project on after these three waste sites are completed?

R. [DOE-RL] Remediation of 618-11 Burial Ground is in the queue. It has not been established when retrieval will take place. There needs to be robust coordination with Energy Northwest before remediation activities take place.

R. [EPA] There are milestones in place to have the 618-11 Burial Ground completed by 2021. EPA is expecting that DOE will finish or have put great efforts towards cleanup of 618-11 by 2021. Energy Northwest will be operating the Columbia Generating Station for decades. Remediating 618-11 will need to occur long before Energy Northwest has completed their operations.

C. There is a 3-4-acre site that has uranium contamination in the burial ground at SW-2. CHPRC should remediate the uranium contamination if they have the technology and trained crews to do so. Please consider a certain strategy about utilizing successful technology and crews to complete remediation work across the Hanford Site.

Q. What is the estimated number of truckloads that will be necessary for backfilling?

> *R. [CHPRC] Probably tens of thousands of truck loads. Super dump trucks will be used to transport the waste. The backfilling is estimated to take place over seven months.*

The RAP committee thanked Bryan, Mike and Emy on their presentation and perspectives. The committee will request that Bryan return with an update on the remediation of the 618-10 Burial Ground and adjacent waste sites in September 2017. The HAB can expect a brief update on 618-10 remediation at the December Board meeting.

300-FF-5 Rev. 0 Report

Shelley Cimon, issue manager, provided a brief background on the uranium sequestration project in the 300 Area. The 300 Area is adjacent to the Columbia River in the southern portion of the Hanford Site. Uranium contaminants were released at waste disposal sites, resulting in groundwater contamination. The 300 Area Record of Decision (ROD) established remediation actions for the 300-FF-5 Operable Unit (OU).

The first stage of the remedial project, Stage A, included an injection of polyphosphate into the vadose zone, periodically rewetted zone (PRZ) and groundwater to sequester uranium contamination. The RAP committee noted that Stage A was successful and were interested to learn how Stage A will inform the next stage of the sequestration project.

Agency Presentation

John Sands, DOE-RL, and Patrick Baynes, CHPRC, provided RAP committee members with a briefing on the 300-FF-5 uranium sequestration project. Key points from Patrick's presentation[4] include:

- Stage A was implemented in a 0.75-acre area of high residual uranium contamination in November 2015. Stage A used nine injection wells and twenty-six monitoring wells.
- Phosphate solutions were injected into the aquifer before, during, and after infiltration. Solutions were injected into the PRZ after aquifer injections.
- The results from the aquifer injections included an increase in phosphate concentrations observed in the monitoring wells. A decrease in uranium concentrations were detected in down-gradient wells.
- Phosphate that was injected into the vadose zone and PRZ was well distributed vertically and laterally. Local temporary increases in uranium concentrations were observed in monitoring wells. After treatment, CHPRC drilled three boreholes to precipitate phosphate out in the upper vadose zone.

Attachment 4: 300 Area Uranium Sequestration (CHPRC, 11/1/16)

- Injections in the PRZ were most effective. Phosphate concentrations were observed in the PRZ monitoring wells. A temporary spike in uranium in the PRZ was observed within the treatment area.

- During Stage A treatments, uranium sequestration was observed almost immediately in down-gradient wells. Uranium concentrations in three down-gradient monitoring wells remain below the cleanup level after treatment.

- Stage B will address the remaining 2.25 acres in the 300-FF-5 OU. Stage B is currently in the planning phase and is expected to begin in August or September 2017.

- The preliminary results from Stage A will help inform Stage B. CHPRC proposes the following for Stage B treatment:

    - Avoid injecting phosphate solution directly to the aquifer. Deliver phosphate to the aquifer via injection to the PRZ before injection into the lower vadose zone, allowing a slower release to the aquifer. This allows for a longer contact of phosphate with sediments in the PRZ.

    - Increase the number of wells to ensure effective lateral coverage. The system will use twenty-four injection and monitoring wells. Nineteen monitoring wells will be added for Stage B.

    - Eliminate the surface infiltration method. The infiltration objective will be achieved by injecting phosphate into the lower vadose zone.

Agency Perspective

Emy Laija, EPA, commented that EPA is looking forward to informing Stage B treatments.

Committee Questions and Responses[2]

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. How will CHPRC discern characteristics if all solutions move into one collection system?

> *R. [CHPRC] There are twenty-four different submersible tubes that are tagged and allow for sampling in a specific area.*

Q. The preliminary results from Stage A are very encouraging. How long will this initial treatment last before additional phosphate injections are necessary?

> *R. [CHPRC] The uranium will continue to stabilize over time based on chemical theory. There is not a robust scientific history; most lab work and field tests have been conducted within the last ten to fifteen years. CHPRC is hoping to fill in some scientific gaps during Stage B.*

Attachment 2: Transcribed flipchart notes

R. [DOE-RL] If the concentration of uranium is below cleanup standards, the rate of leaching should not rebound.

Q. Would uranium leach if there was a large flood?

R. [CHPRC] If there was a large flood, uranium might be pushed out from other areas.

Q. What is the half-life of uranium?

R. 30,000 years.

Q. How much uranium remains outside of the Stage A and B areas (3-acres)?

R. [CHPRC] I do not know the amount of remaining uranium. My coworker who works for Intera said he would share the amount of uranium that was calculated from his model.

Q. Did other trenches in the 300 Area receive uranium-processed water?

R. [CHPRC] There are other locations in the 300 Area that have uranium contamination. The Remedial Investigation / Feasibility Study (RI/FS) explains that a 40-acre area of uranium contamination was observed. Closeout verification packages indicate where the highest areas of uranium are. That is how Stage A and Stage B sites were identified.

R. The 300 Area processing trenches were built as a disposal site to support uranium fuel production. Trenches and two processing ponds were used for uranium disposal. This uranium sequestration project is looking for hotspots of uranium contamination.

Q. When would one expect to see the uranium plume impacted due to the fluctuating Columbia River?

R. [DOE-RL] The next annual groundwater report will describe the observed uranium plume.

R. [CHPRC] CHPRC developed a 3-D model versus the 2-D model used for the ROD. The bounds of uncertainty are much less in a 3-D model.

Q. How often is the uranium plume sampled?

R. [DOE-RL] Some wells are monitored seasonally and other wells are monitored annually. Part of the ROD remedy is monitored natural attenuation. DOE-RL will continue to monitor the wells until uranium is gone.

Q. What are some potential hazards with this remedy if a similar treatment method was used to sequester uranium in a different area?

R. [DOE-RL] There are currently no plans to expand this treatment method to other areas.

R. [CHPRC] Phosphate is fairly benign. It may cause vegetation to grow faster. There are no anticipated impacts to fish populations.

C. Washington State has a regulation about how much phosphate enters a river.

Q. How much widespread potential is there for phosphate to move into other areas?

R. [DOE-RL] The phosphate was injected directly into the groundwater. The potential for the phosphate to spread is minimal.

C. Uranium exists in the Central Plateau in the 200 Area. That uranium is being treated through the 200-West Pump-and-Treat System.

Q. Was phosphate or related-impacts from the phosphate injection measured in the Columbia River?

R. [CHPRC] Measurements or samples directly from the Columbia River were not included in the ROD. Down-gradient wells were monitored and measured for phosphate concentrations. Phosphate concentrations diffused as it moved closer to the river, therefore it was less concentrated.

Q. What is the amount of phosphate used for Stage B?

R. [CHPRC] Three times as much phosphate will be used to treat uranium in Stage B. Recall that we are not injecting phosphate directly into the aquifer in Stage B treatments.

Q. How much does groundwater flow change over the course of a year?

R. [DOE-RL] Groundwater flow does not fluctuate much.

Q. Is the project costing more because additional wells will be used for Stage B?

R. [CHPRC] It will cost money to build additional wells for Stage B. However, not using the full infiltration system will save money, by a net reduction of approximately $200,000. Splitting the project up into two stages costs more money but will give us time to refine the system and collect accurate results.

Q. Will the ROD require a supplemental analysis due to the increase in project cost?

R. [DOE-RL] The cost increase is less than 50%, which will not require a supplemental analysis to the ROD.

Q. Will the Pacific Northwest National Laboratory (PNNL) report be a part of the performance assessment?

R. [DOE-RL] Yes, the PNNL report will be included in the performance assessment. The report should be available in mid-November. A new report will not be created for Stage B treatments.

Q. Does CHPRC anticipate to drill additional boreholes in the Stage A area?

R. [CHPRC] No, not at this time.

Q. Can the RAP committee expect to see improved results over time, as the phosphate increasingly binds with the uranium?

> *R. [DOE-RL] Multiple reactions are occurring over time as the phosphate binds with uranium. It is not a one-time reaction.*
>
> C. It is not very effective to have a five-year review period. A comment from EPA was that DOE-RL would determine if the treatment was effective within two years of the applied treatment. Tribes have a Notice of Intent to sue DOE-RL for this ROD. Tribes are concerned with the long-term effectiveness of the treatment. There are large amounts of uranium in other areas that are reaching the Columbia River.

RAP members thanked Patrick and John for their presentation. John explained that Stage B injections will occur in the August/September timeframe in FY 2017.

Status of SWOC/Rev. 9 and Rev. 8C Permit Modifications

Agency Presentation

Stuart Luttrell, Ecology, provided RAP committee members with an update on the Solid Waste Operating Complex (SWOC) and Rev. 8C and Rev. 9 permit modifications. The SWOC permit includes low-level burial grounds, Central Waste Complex, T-Plant Complex and the Waste Receiving and Processing Facility.

DOE-RL submitted a permit modification request in January 2016 and Ecology determined the permit incomplete. Ecology provided a full technical review and submitted comments on the permit application to DOE-RL and CHPRC. Ecology has completed review of Part A and the security addendum. Ecology, DOE-RL and CHPRC have met on several occasions to discuss a continuation of the permit application review process and comment resolution. Ecology will continually review addendums. No addendums have been resolved.

DOE-RL will submit a revised permit modification request for Rev. 8C. Ecology will then prepare a draft permit modification for a 45-day public comment period. Ecology expects to complete a full review by February 2017, complete agency workshops in May 2017 and complete the draft permit for public comment in October 2017.

Committee Questions and Responses[2]

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. Are the low-level burial grounds lined?

> *R. [Ecology] Yes, the low-level burial grounds are a double-lined leachate system. Most burial grounds are not lined and are not included in the recent permit revision.*

Q. How does Rev. 9 inform Rev. 8C?

> *R. [Ecology] Rev. 8C and Rev. 9 should have similar content. The Rev. 8C schedule is ahead of the Rev. 9 schedule. Ecology is trying to coordinate DOE-RL's requirements of Rev. 9 during the Rev. 8C review process.*

Q. How is the working relationship between DOE-RL and Ecology?

> *R. [Ecology] The meetings are going well thus far. There have been a few disagreements and those issues are elevated to the management team who seek a resolution.*

Q. What is the driving force for management to reach resolution on the permit application?

> *R. [Ecology] This is not a TPA milestone. Ecology is planning to have the Rev. 8C permit issued by March 1, 2018. Rev. 8C will include operable units 31 and 34.*
>
> Q. Who determines what the permit issue date is if it is not driven by a TPA milestone?
>
> > *R. [Ecology] It is in the interest of DOE-RL to have a permitted facility. All agencies are driving towards the same goal.*

Q. Will the public be able to observe the workshop meetings held between Ecology and DOE-RL?

> *R. [Ecology] The workshops are not open to the public is my understanding.*

Q. Who is the permit writer?

> *R. [Ecology] Stuart is the permit lead and John Temple is the permit writer for the low-level burial grounds. John is also assisting with the permit writing for the Central Waste Complex and the T-Plant Complex.*

Q. Has Ecology received comments from the Yakama Nation on the two permit modifications?

> *R. [Ecology] Yes, Ecology has received the Yakama Nation's comments and incorporating them as applicable.*

Attachment 2: Transcribed flipchart notes

Q. Is the process becoming longer?

R. [Ecology] We are behind in some elements and ahead in others. Overall, the process has not been extended significantly.

C. It would be helpful to have a visual roadmap from Ecology that explained key dates in the permitting schedule, in tandem with other projects that are happening on the Site.

R. [Ecology] The RAP committee has asked Ecology for a visual roadmap before. Ecology is in the process of creating that schedule.

C. If Ecology cannot address every permit or resolve disputes, should the HAB be concerned about the potential impact of a delay in permits? There are only so many permit writers on Ecology's staff.

Q. What materials will be placed into the low-level burial grounds under the Rev. 8C permit modification?

R. [Ecology] The lined trenches will receive mixed waste.

Q. What is currently covered under the 8C permit?

R. [Ecology] There is no permit for this facility in place; activities occurred at these OU's before Resource Conservation and Recovery Act (RCRA) permit was active. The process should be that an applicant submits Part A of the permit when a new facility is ready to startup. The applicant submits Part B of the permit when the facility is ready to begin operating.

R. DOE-RL is currently operating under interim status standards and following a few dangerous waste permits. DOE-RL was supposed to have a full permit in 2004.

C. The RAP committee submitted comments on the Rev. 8 permit years ago. Hopefully the agencies are still incorporating the Board's comments.

Q. What kind of template is used to write the permit modifications?

R. [Ecology] Ecology uses guidance documents when reviewing and writing the permit. A separate local team at Ecology helps write the permit, put it into production and release it for review.

Q. Are there policy-level sections of the permit that the HAB can provide comments on prior to or during the workshops?

R. [Ecology] Ecology has not made final decisions on any addendums yet. We need to resolve discussions on treatments. Ecology will ask management if there is availability for the Board to comment during the review and/or workshop stages.

Q. Is Ecology considering the activities at the SW-2 Burial Ground? Is that a separate permit?

R. [Ecology] There is another group working on the SW-2 permit. Both groups communicate frequently and would notify one another if something were to affect a dangerous waste permit.

Q. Will Madeline Brown's position at Ecology be filled before the public comment period begins?

R. [Ecology] Ecology will refill that position but does not have an estimated timeframe.

The RAP committee thanked Stuart for his update on the Rev. 8C and Rev. 9 permit modifications. The RAP committee will request an update on the status of the permit modifications in February 2017 and April 2017. The update will speak to the status of Ecology's reviews and workshops held between Ecology and DOE-RL. Committee members suggested that Ecology review the comments that the Board submitted on the Rev. 8 permit prior to the February 2017 presentation.

Draft Budget Advice Review (Joint with BCC)

Jerry Peltier, Budgets and Contracts Committee (BCC), provided a brief background on the development of the draft budget advice, in preparation for the December Board meeting. The Board established priorities in budget advice for FY 2017. DOE's response to the Board's advice (#288) did not satisfy the Board's funding priorities. BCC decided to create a product, reminding DOE of the Board's priorities.[5] BCC struggled to produce a meaningful product due to a lack of information from DOE. DOE-ORP cannot discuss their budget due to ongoing litigation and DOE-RL is not producing a lifecycle cost report for FY 2017.

Kris Holmes, DOE-RL, noted that Doug Shoop, manager of the Richland Operations Office will present budget priorities at the December Board meeting. Shoop intends to speak to discuss projects between 2016 and 2020, which include many of the items in the HAB's Advice (#288).

Committee Questions and Responses[2]

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

C. Why waste time developing budget advice if it not going to be utilized? I suggest that the draft product not move forward and the Board wait until they receive the formal budget presentation in March 2017 to create new advice regarding budget priorities.

C. With upcoming administration changes in Washington D.C., there may not be many people who can review or respond to the Board's advice in December.

C. I prefer the priority approach because it removes ranking what projects are most important; all of them are important. I think the respective committees should wait until Shoop's presentation before moving forward.

C. When should the HAB insert themselves in the budget process? It is difficult to come out with advice under the current resolution.

Attachment 5: BCC Committee Draft Budget Advice (11/1/16)

Attachment 2: Transcribed flipchart notes

R. The budget cycle is the same every year and should align well with what DOE needs as they move into the next planning year. There is often a lack of correlation between what DOE presents and what the HAB recommends.

C. At this year's Environmental Management Site Specific Advisory Board (EMSSAB) meeting, the HAB was encouraged to issue budget advice because of the continuing resolution. The Board should move forward with an advice product that reiterates the HAB's budget priorities.

R. [DOE-RL] If the HAB chooses to submit new advice on budget priorities, it will likely be very similar to Advice #288.

C. If the Board was encouraged to communicate, then we should communicate.

R. [DOE-RL] Mark Whitney made this general encouragement to all the boards at the EMSSAB meeting; it was not specific task for the HAB.

C. The Board could shape the latest draft budget advice into a letter. That would communicate our priorities to DOE and not require a response from DOE, since they are concerned about duplicate advice and duplicate responses.

Q. Is it possible for DOE to give advice directly to the Office of Management and Budget (OMB)?

R. [DOE-RL] DOE is not allowed to give advice directly to OMB. DOE nor the Board can lobby Congress.

RAP and BCC committees agreed to turn the draft product on budget priorities into a letter, with the intent of bringing it forward at the December Board meeting. BCC is scheduled to hold a committee meeting to discuss the path forward and begin document revisions on Wednesday, November 2.

Committee Business

RAP 3-Month Work Plan[26]

The RAP committee anticipates a full-day meeting in January to discuss the following topics:

- PFP update
- Central Plateau principles letter (WA-1)
- SW-2 Burial Grounds
- PW 1/3/6 plutonium and americium geochemistry
- K-Basin sludge

The RAP committee is tentatively planning to hold a committee meeting in February 2017 to discuss the Waste Encapsulation Storage Facility, updates to PFP, critical infrastructure upgrades, 324 Building, the WA-1-Work Plan, and updates on the Site-wide permits Rev. 8C and Rev. 9.

The RAP committee anticipates meeting in April 2017 to resume discussions on critical infrastructure, PFP progress, SWOC/Rev. 8C and Rev. 9 and the Ecology permitting process overview.

Attachment 2: Transcribed flipchart notes

Attachment 6: RAP 3-Month Work Plan

Attachments

Attachment 1: PFP Update (DOE-RL, 11/1/16)

Attachment 2: Transcribed flipchart notes

Attachment 3: 618-10 Burial Ground Remediation Progress and Adjacent Waste Sites (DOE-RL, 11/1/16)

Attachment 4: 300 Area Uranium Sequestration (CHPRC, 11/1/16)

Attachment 5: BCC Committee Draft Budget Advice (11/1/16)

Attachment 6: RAP 3-Month Work Plan

Attendees

Board members and alternates:

Don Bouchey	Steve Hudson	Liz Mattson (phone)
Jan Catrell	Chuck Johnson	Casey Mitchell
Shelley Cimon	Mike Korenko	Jerry Peltier
Dirk Dunning	Pam Larsen	Bob Suyama
Dale Engstrom	Susan Leckband	Gene Van Liew
		Jean Vanni

Others:

Bryan Foley, DOE-RL	Randy Bradbury, Ecology	Patrick Baynes, CHPRC
Kris Holmes, DOE-RL	Stuart Luttrell, Ecology	Theresa Bergman, CHPRC
Kyle Rankin, DOE-RL	John Temple, Ecology	Jennifer Copeland, CHPRC
John Sands, DOE-RL	Ginger Wireman, Ecology	Mike Jennings, CHPRC
Tom Teynor, DOE-RL	Emy Laija, EPA	Samantha Herman, EnviroIssues
	Megan Babcock, WDOH	Ryan Orth, EnviroIssues
		Jennifer Colborn, MSA
		Dana Gribble, MSA
		Drew Thomas, MSA
		Shintaro Ito, PNNL